

UNITED STATES PATENT OFFICE.

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METHOD OF TREATING RAW AND WORKED TEXTILE FIBERS, SUCH AS JUTE, HEMP, FLAX, AND THE LIKE.

1,017,176.

Specification of Letters Patent.

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No Drawing.

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To all whom it may concern:

Be it known that I, RICHARD SCHRECKENBACH, merchant, a subject of the German Emperor, and residing at Salzgitter, Province of Hanover, Germany, have invented certain new and useful Improvements in Methods of Treating Raw and Worked Textile Fibers, such as Jute, Hemp, Flax, and the Like, of which the following is a specification.

The present invention relates to a method of treating raw fibers and woven fabrics of ramie, flax, hemp and other textile fibers.

The new method has the object to render the materials thus treated more soft and flexible and in particular by increasing the divisibility of the fiber to admit of the said fiber being spun to finer yarns of a higher number.

The essential feature of the new method consists in that the respective material is treated in a fermenting bath, to which glycerin has been added for promoting the growth of an effective organized ferment whereupon the thus treated materials are washed in soft water and dried. For obtaining a still higher divisibility of the fibers which have been exposed to the fermenting process, they are placed after having been washed into a bath with a $\frac{1}{2}$ to 3% aqueous solution of peroxid of sodium whereupon they are again washed in the hereinbefore described manner in soft water.

Hereinafter the method is exemplified by a mode in which it may be carried out, the material treated being jute.

For treating about 50 to 60 kilos of jute the latter is placed in a fermenting bath composed of 100 liters of soft water, 5 pounds of sugar and 3 pounds of the best distiller's yeast besides $\frac{1}{2}$ to 1 pound of glycerin. This bath is kept at a temperature of 25 to 28° C. After fermentation the fibers may, if they have not yet reached the desired degree of softness, be again treated with the said fermenting bath, to which a further 5 pounds of sugar and $\frac{1}{2}$ pound of glycerin are added for strengthening it. After the material has been removed from this bath, it is washed in soft water and eventually dried if necessary.

The essential feature of this fermenting bath and its difference from other known fermenting processes consists in the addition of glycerin which serves as a food for the

fermenting organism to be produced. This organized ferment has the effect that it will dissolve the gummy material in the fibers and loosen the bundles of cells, leaving the core of the cell however intact. By this treatment a fine thin fiber is obtained which is highly divisible, and is excellently suited for being spun even up to No. 60. Hereby the new method differs from similar, already known methods, which are partly intended to produce a woolly structure of the fiber partly to intentionally destroy the cell core entirely. With all these known methods the object aimed at and actually obtained by means of the present invention is not attainable, namely that a smooth thin fiber is produced at an unimpaired strength against tearing. These properties must however, all be present if a good yarn is to be produced.

The hereinbefore described method of treating jute has the advantage over other methods hitherto known, that the inconvenient admixture of crude cod liver oil or similar fats or oils can be omitted. These admixtures have been hitherto necessary, as it was otherwise not possible to give the fiber the required softness. This is the reason that in consequence of the odor of cod liver oil adhering to the finished fabrics, the latter could not be used for many purposes, they were otherwise suited for.

As already hereinbefore mentioned, the jute fiber which has been treated according to the new method may in such cases where it is desirable to obtain an extreme divisibility, for the purpose of spinning the jute fibers to artificial silk up to No. 300 and higher, be placed after having been washed, into a bath of, and at the maximum a 3% aqueous solution of peroxid of sodium. The fibers are left in this bath for three days, are then again washed and further worked in any desired manner. Thus treated fibers fully resemble the best silk with regard to gloss, softness, flexibility and divisibility.

It may be added, that in itself the use of peroxid of sodium is known as a bleaching medium, but not as a means for increasing the divisibility. This latter effect by the addition of peroxid of sodium could neither be obtained with the known methods, as it depends on the loosening of the bundles of fibers, which has hitherto not been possible for lack of a suitable fermenting process.

But by the loosening of the bundles of fibers, as it is obtained by the new method, the sodium peroxid will be able to penetrate the fibers to such an extent, that an extreme divisibility of the fibers is obtained. The sodium peroxid added will of course also have a bleaching effect with the new method, but this accompanying effect shall not form a part of the present invention.

It is obvious that the hereinbefore described method the application of which has been exemplified with reference to jute may also be used for all other fibrous substances, such as flax, hemp, ramie and the like.

I claim:

1. Method of treating raw and worked jute, flax, hemp, ramie fibers and the like, consisting in the raw fibers and the yarns and fabrics made thereof respectively being exposed to a fermenting bath, to which glycerin is added adapted to promote the growth of an effective organized ferment,

whereupon the thus treated materials are washed out in water and eventually dried.

2. Method of treating raw and worked jute, flax, hemp, ramie fibers and the like, consisting in the raw fibers and the yarns and fabrics made thereof respectively being exposed to a fermenting bath, to which glycerin is added adapted to promote the growth of an effective organized ferment, the materials being then washed in soft water and placed in a bath composed of an aqueous solution of peroxid of sodium, whereupon the thus treated materials are again washed out in water and eventually dried.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RICHARD SCHRECKENBACH.

Witnesses:

JULIUS SECHSEL,
FRIDA BARTELS.